## ABSTRACT

A code division multiple access communication system has a plurality of base stations. Each base station transmits a primary synchronization code (PSC) in a primary synchronization channel (PSCH). A user equipment monitors the PSCH and correlates the PSCH with the PSC. Using a result of the PSC correlation, PSCH locations are identified having a PSC peak. For each identified PSCH location, a quality factor comprising a shape factor associated with that location's PSC peak is determined. For each identified PSCH location, that identified PSCH location and the quality factor is stored. The PSCH locations and quality factors are accumulated over a number of frames and are processed using logic at algorithms to produce a reliable PSC detection.